

Low Back Pain

KEY POINTS

- Pain and stiffness in the lower back is a common condition.
- Low back pain can be treated with physical activity, ice, moist heat, and sometimes with medicine or surgery.
- Keeping your muscles strong, using good posture, and learning the correct way to lift heavy objects can help prevent problems.

What is low back pain?

Pain and stiffness in the lower back is a common condition. It is one of the most common reasons people miss work.

In the center of your lower back are 5 bones in the spine called lumbar vertebrae. Muscles and ligaments help keep the vertebrae in their proper position. In between the vertebrae are gel-like shock absorbers called disks. Nerves that lead to the lower body pass through the bones of the lower back.

What is the cause?

You may have pain if any part of your back is injured, strained, or affected by illness.

The most common causes of back pain include:

- Improper lifting or carrying of heavy objects
- Spending a lot of time sitting or standing in one position or bending over
- Overuse injuries
- Being overweight
- A degenerative condition, which is a problem that causes the bones, joints, disks, or muscles to break down as with arthritis

Less common causes of back pain include:

- A disk that bulges or is pushed out of place by injury or a severe strain. A bulging (herniated) disk can pinch the nerves that pass through the bones, leading to pain in the legs.
- Injuries caused by a fall, unusually strenuous exercise, or even violent sneezing or coughing
- Swelling and irritation from an infection or an immune system problem
- Narrowing of the spinal canal by abnormal bone growth
- Osteoporosis, which is thinning and weakening of the bones
- Structure problems you were born with, such as scoliosis

What are the symptoms?

Symptoms include:

- Pain in the back, buttocks, or legs

- Weakness in the legs
- Tingling or numbness in the legs or feet
- Stiffness, spasms, or limited motion

The pain may be constant or may happen only in certain positions. It may get worse when you cough, sneeze, bend, twist, or strain during a bowel movement. The pain may be in only one spot or it may spread to other areas, most commonly down the buttocks and into the back of the thigh.

How is it diagnosed?

Your healthcare provider will review your medical history and examine you. Tests may include:

- X-rays
- CT scan, which uses X-rays and a computer to show detailed pictures of the spinal cord and the tissues around it
- MRI, which uses a strong magnetic field and radio waves to show detailed pictures of the spinal cord and tissues around it
- Contrast myelogram, which is a series of X-rays taken after your healthcare provider injects contrast dye into your spinal column.
- Bone scan, which uses a radioactive chemical to look at your bones

How is it treated?

The treatment for low back pain depends on the cause. Your healthcare provider may recommend:

- Rest and physical activity. It's best to try to stay active, so follow your healthcare provider's advice for rest and physical activity. Your provider may recommend physical therapy or exercises that you can do at home.
- Medicine. Several types of medicines may help lessen back pain. Take all medicine as recommended by your healthcare provider.
- Cognitive behavioral therapy (CBT). Cognitive behavioral therapy (CBT) is a way to help you identify unhealthy ways of thinking and learn new ways to think and manage your worries and fears about illness. CBT can help you see how your fears affect you, change the way you think about your symptoms and learn better ways to cope. It can help you feel less anxious and stressed, which may help decrease your pain.
- Surgery. Depending on the cause of your back pain and if you keep having symptoms, you may need to have surgery. However, most common causes of back pain don't need surgery.

How can I take care of myself?

To help relieve pain:

- Put an ice pack, gel pack, or package of frozen vegetables, wrapped in a cloth on the painful area every 3 to 4 hours for up to 20 minutes at a time.
- Take an anti-inflammatory medicine, such as ibuprofen, or other medicine as directed by your healthcare provider. Nonsteroidal anti-inflammatory medicines (NSAIDs), such as ibuprofen, may cause stomach bleeding and other problems. These risks increase with age. Read the label and take as directed. Unless recommended by your healthcare provider, do not take for more than 10 days.
- Put a hot water bottle or electric heating pad on your back. Cover the hot water bottle with a towel or set the heating pad on low so you don't burn your skin.

Try putting moist heat on the injured or painful area for 10 to 15 minutes at a time before you do warm-up and stretching exercises. Moist heat may help relax your muscles and make it easier to move your body. Moist heat includes heat patches or moist heating pads that you can purchase at most drugstores, a wet washcloth or towel that has been heated in the dryer, or a hot shower.

Don't use heat if you have swelling.

- Get a back massage by someone trained in giving massages.
- Talk with a counselor if your back pain is related to tension caused by emotional problems.

Pain is the best way to judge the pace you should set for increasing your activity and physical activity. Minor discomfort, stiffness, soreness, and mild aches don't need to limit your activity.

Ask your healthcare provider:

- How and when you will get your test results
- How long it will take to recover from this condition
- If there are activities you should avoid and when you can return to normal activities
- How to take care of yourself at home
- What symptoms or problems you should watch for and what to do if you have them

Make sure you know when you should come back for a checkup.

How can I help prevent low back pain?

Here are some of the things you can do so there is less strain on your back:

- Keep your abdominal and back muscles strong. Be physically active every day and include stretching and warm-up exercises suggested by your provider or physical therapist. Regular physical activity will not only help your back, but it will also help keep you healthier overall.
- Practice good posture.
 - Stand with your head up, shoulders straight, chest forward, weight balanced evenly on both feet, and pelvis tucked in.
 - Whenever you sit, sit in a straight-backed chair and hold your spine against the back of the chair. You may want to try a standing desk if you sit at a desk for a long time.
 - Use a footrest for one foot when you stand or sit in one spot for a long time. This keeps your back straight.
- Protect your back.
 - When you need to move a heavy object, don't face the object and push with your arms. Turn around and use your back to push backwards so the strain is taken by your legs.
 - When you lift a heavy object, bend your knees and hips and keep your back straight. If you do a lot of heavy lifting, wear a belt designed to support your back. Avoid lifting heavy objects higher than your waist.
 - Carry packages close to your body, with your arms bent.
 - Lie on your side with your knees bent when you sleep or rest. It may help to put a pillow between your knees. Put a pillow under your knees when you sleep on your back. You may need to avoid sleeping on your stomach.
- Lose weight if you are overweight. Ask for a referral to a dietitian if you need help with meal planning.

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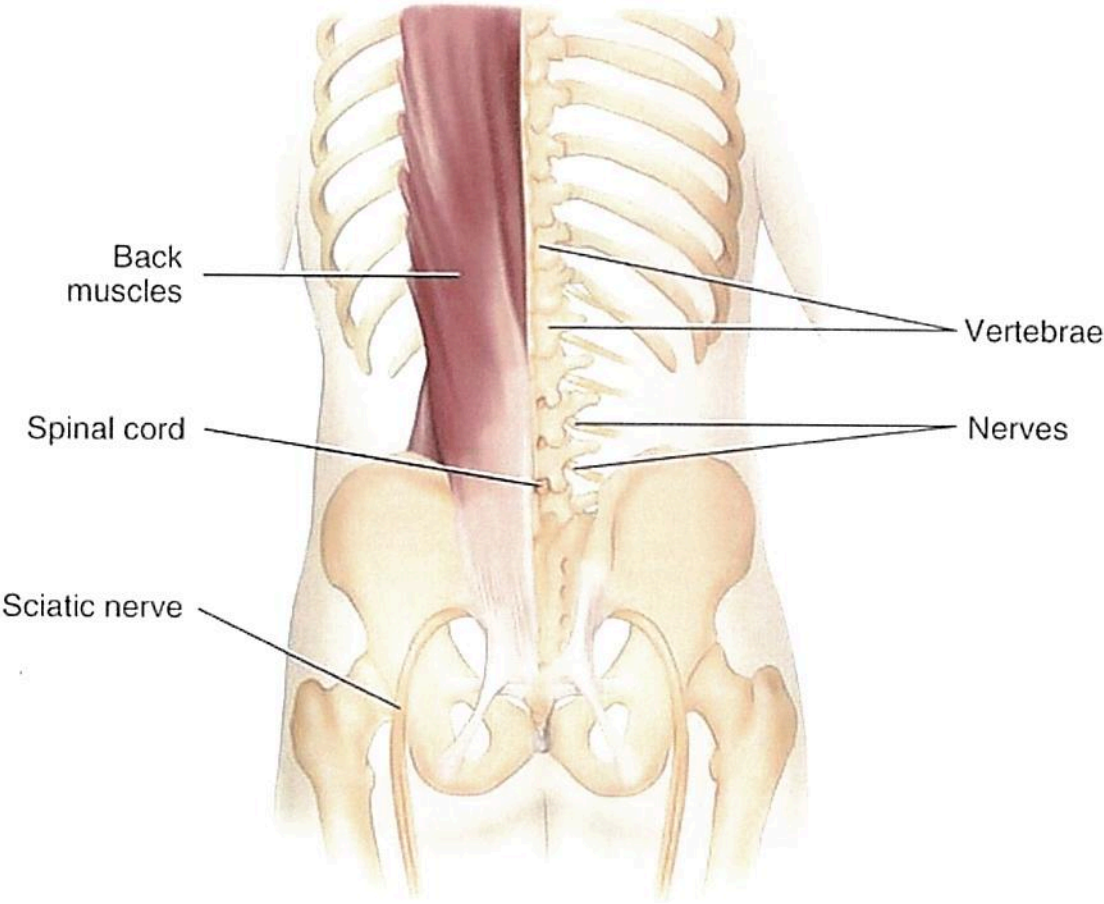
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Low Back Pain Exercises

Exercises that stretch and strengthen the muscles of your abdomen and spine can help prevent back problems. Strong back and abdominal muscles help you keep good posture, with your spine in its correct position.

If your muscles are tight, take a warm shower or bath before doing the exercises. Exercise on a rug or mat. Wear loose clothing. Don't wear shoes. Stop doing any exercise that causes pain until you have talked with your healthcare provider.

Ask your provider or physical therapist to help you develop an exercise program. Ask your provider how many times a week you need to do the exercises. Remember to start slowly.

Exercises

These exercises are intended only as suggestions. Be sure to check with your provider before starting the exercises.

- **Abdominal drawing-in maneuver:** Lie on your back with your knees bent and your feet flat on the floor. Try to pull your belly button in towards your spine. Hold this position for 15 seconds and then relax. Repeat 5 to 10 times.
- **Cat and camel:** Get down on your hands and knees. Let your stomach sag, allowing your back to curve downward. Hold this position for 5 seconds. Then arch your back and hold for 5 seconds. Do 2 sets of 15.
- **Quadruped arm and leg raise:** Get down on your hands and knees. Pull in your belly button and tighten your abdominal muscles to stiffen your spine. While keeping your abdominals tight, raise one arm and the opposite leg away from you. Hold this position for 5 seconds. Lower your arm and leg slowly and change sides. Do this 10 times on each side.
- **Pelvic tilt:** Lie on your back with your knees bent and your feet flat on the floor. Pull your belly button in towards your spine and push your lower back into the floor, flattening your back. Hold this position for 15 seconds, then relax. Repeat 5 to 10 times.
- **Partial curl:** Lie on your back with your knees bent and your feet flat on the floor. Draw in your abdomen and tighten your stomach muscles. With your hands stretched out in front of you, curl your upper body forward until your shoulders clear the floor. Hold this position for 3 seconds. Don't hold your breath. It helps to breathe out as you lift your shoulders. Relax back to the floor. Repeat 10 times. Build to 2 sets of 15. To challenge yourself, clasp your hands behind your head and keep your elbows out to your sides.
- **Gluteal stretch:** Lie on your back with both knees bent. Rest your right ankle over the knee of your left leg. Grasp the thigh of the left leg and pull toward your chest. You will feel a stretch along the buttocks and possibly along the outside of your hip. Hold the stretch for 15 to 30 seconds. Then repeat the exercise with your left ankle over your right knee. Do the exercise 3 times with each leg.
- **Extension exercise**
 1. Lie face down on the floor for 5 minutes. If this hurts too much, lie face down with a pillow under your stomach. This should relieve your leg or back pain. If your leg pain continues, try using another pillow underneath your stomach. When you can lie on your stomach for 5 minutes without a pillow, you can continue with Part B of this exercise.
 2. After lying on your stomach for 5 minutes, prop yourself up on your elbows for another 5 minutes. If you can do this without having more leg or buttock pain, you can start doing part C of

this exercise.

3. Lie on your stomach with your hands under your shoulders. Then press down on your hands and extend your elbows while keeping your hips flat on the floor. Keep your back relaxed as you do this. Hold for 1 second and lower yourself to the floor. Do 3 to 5 sets of 10 repetitions. Rest for 1 minute between sets. You should have no pain in your legs when you do this, but it is normal to feel some pain in your lower back.

Do this exercise several times a day.

- **Side plank:** Lie on your side with your legs, hips, and shoulders in a straight line. Prop yourself up onto your forearm with your elbow directly under your shoulder. Lift your hips off the floor and balance on your forearm and the outside of your foot. Try to hold this position for 15 seconds and then slowly lower your hip to the ground. Switch sides and repeat. Work up to holding for 1 minute. This exercise can be made easier by starting with your knees and hips flexed toward your chest.
- **Prone plank:** Lie on your stomach on the floor with your elbows bent and your forearms resting on the floor. Lift your hips and knees off the floor and try to stay in this position while keeping your back flat. Work up to holding this position for at least 1 minute. Do 3 sets.

Exercises to avoid

It's best to avoid the following exercises because they strain the lower back:

- Exercises in which you lie on your back and raise and lower both legs together
- Full sit-ups or sit-ups with straight legs
- Hip twists
- Squats with weights

Sports and other activities

In addition to strengthening your back muscles, it's helpful to keep your entire body in shape. Good activities for people with back problems include:

- Walking
- Bicycling
- Swimming
- Cross-country skiing
- Yoga
- Tai Chi
- Pilates

Some sports can hurt your back because of rough contact, twisting, sudden impact, or direct stress on your back. If you have had low back pain in the past, ask your healthcare provider or physical therapist if you should avoid some of these sports:

- Basketball
- Football
- Soccer
- Volleyball
- Handball
- Golf
- Weight lifting
- Trampoline
- Tobogganing
- Sledding
- Snowmobiling
- Snowboarding
- Ice hockey

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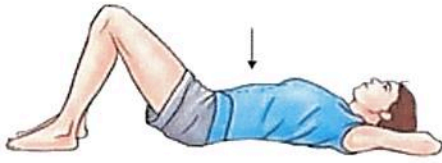
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[References](#)

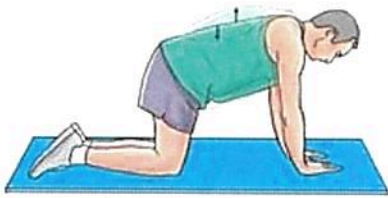
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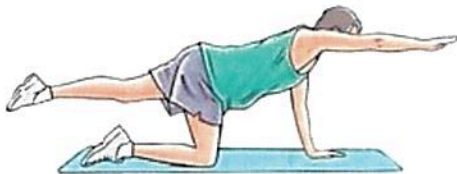
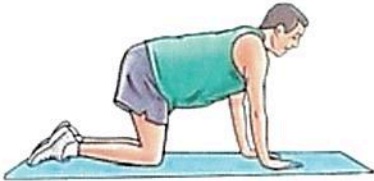
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Abdominal drawing-in maneuver



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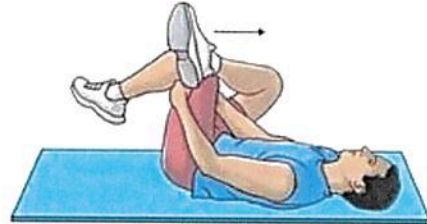
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Pelvic tilt



Partial curl



Gluteal stretch

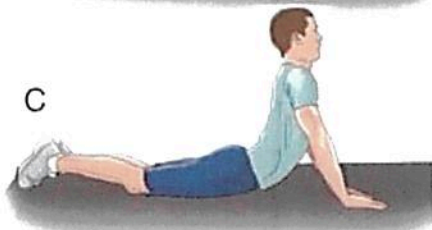
A



B



C



Extension exercise



Side plank